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EXAMINER

SWEARINGEN, JEFFREY R

ART UNIT

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2145

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10/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/633,242

Applicant(s)

STAFFORD ET AL.

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This case has been assigned to a new examiner.

Response to Arguments

2. Applicant's arguments filed 7/26/2007 have been fully considered but they are not persuasive.

3. Applicant argued that Spaur disclosed that "no transfer of information occurs until the link schedule 70 determines the identity of other network channels that are becoming available for the selection, based on current location of the mobile unit and the anticipated change in location of the mobile unit...", to show that Spaur failed to teach *when the Internet packet is being received when the channel scan request is received, scanning at least one other channel of the plurality of channels, but less than all of the plurality of channels; after scanning the at least one other channel, tuning to the one of the plurality of channels to transmit at least one outbound Internet packet; and scanning at least another channel of the plurality of channels*. Applicant is arguing the transmission aspect of the claims, but the claims never transmit any packets. The invention is *tuned* to a channel selected with the intent to *transmit* a packet, but the invention as claimed never *transmits* the packet.

4. Applicant argued that Spaur never disclosed *scanning of channels*. Spaur switches from a currently used network channel to a new or different selected channel. Spaur determines whether a link is unavailable or offline. Spaur inherently performs these by knowing the characteristics of the channels, or "scanning" the channels.

5. Scanning of the channels was taught directly by Gwon. In Gwon's mobile wireless environment, the handoffs could not have possibly performed without a scan of the channels in use. This would be the only way to establish a tunnel, which requires security implementation. Gwon further supports the use of scanning in the background, column 3, lines 40-55, which discloses the use of beaconing to indicate which channels are present, allowing for the "scanning" of which channels are available in a particular area.

6. Applicant repeated the data transfer argument, cited in paragraph 3 above for *when the network interface protocol channel scan request is received, hopping between a channel supporting the TCP*

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connection within a wireless local area network (WLAN) and other channels of the WLAN to avoid excess latency in acknowledging receipt of a packet formatted in accordance with the Internet Protocol or a portion of the packet during scanning of the other channels of the WLAN. It is not sure how data transfer is relevant to this clause. Applicant repeats the argument that Spaur failed to disclose channel "scanning".

7. Applicant repeats the argument that Gwon failed to disclose channel scanning or hopping. Channel scanning was addressed in paragraph 5. Gwon performs handoffs between mobile agents, which is "hopping" between "channels".

8. Applicant repeats the above arguments for independent claims 14, 20, 24, and 29.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Regarding claim 1, Spaur et al. anticipates:

A method for interoperability of a network interface protocol with an Internet interface protocol to ensure a high data throughput; the method comprises:

Receiving a scan channel request of a plurality of channels that are in accordance with the network interface protocol (column 8, lines 4-9, where each network channel is analyzed and column 6, lines 30-32, with the channels being able transfer information relative to the terminal stack, seen as channels that are compliant with the network interface protocol);

Determining whether an Internet packet is being received via one of the plurality of channels when the channel scan request is received (column 6, lines 25-29, where a selected channel is active by transmitting and receiving information packets, and column 13, line 67- column 14, line 3, where the link selector determines the switching from a currently used channel,

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seen as active or receiving packets, to a new channel, which requires the use of the channel scan request as seen in Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as a channel scan request);

When the Internet packet is being received when the channel scan request is received, scanning at least one other channel of the plurality of channels, but less than all of the plurality of channels (Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as scanning other channels, but not the currently used channel, and column 13, line 67- column 14, lines 3 where the link selector takes a currently used network channel and switches to a different channel, seen as doing a channel scan only when the one channel is active or receiving packets).

Spaur et al. also anticipates that the scanning of channels happens intermittent with the buffering of delayed information (column 13, lines 8-22, with the link scheduler scanning for future channels and delaying information by buffering the transmission).

Spaur et al. does not disclose tuning back to the first channel to transmit data before going back to scanning for more channels. The general concept of continuing a transmission while performing a channel scan is well known in the art as illustrated by Gwon et al.

Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39- 45, where the mobile device can still transmit to the old agent using tunnels, seen as using the old channel to transmit data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where o tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

11. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

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12. Regarding claim 2, Spaur et al. and Gwon et al. teach all of the limitations as described above, with Spaur et al. further teaching:

The method of claim 1, wherein the receiving a channel scan request further comprises: periodically receiving the channel scan request from a host device to determine whether another one of the plurality of channels contains data of interest to the host device (column 10, lines 34-38 and column 7, line 41-column 8, line 9, where the link selector transfers old channels to new channels upon changing communication conditions, seen as periodically, and the channels are analyzed to determine if they match certain parameters seen as data of interest).

Regarding claim 3, Spaur et al. and Gwon et al. teach all of the limitations as described above, with Spaur et al. further teaching:

The method of claim 1, wherein the determining whether the Internet packet is being received further comprises: determining that a source of the Internet packet and a destination of the Internet packet have established a Transmission Control Protocol (TCP) connection (column 6, lines 25-29, where a selected channel is active by transmitting and receiving information packets, and the protocol used is TCP as seen in column 5, lines 61-67).

13. Regarding claims 5, 7, 17, 19, 26, and 28, Spaur et al. and Gwon et al. teach all of the limitations as described above with Spaur et al. further teaching

After scanning the at least another channel of the plurality of channels (column 13, lines 7-15, with the system scanning channels as they become available):
determining whether each of the plurality of channels have been scanned (column 13, lines 7-15, with the system scanning each channel that is available)

Spaur et al. does not disclose tuning back to the first channel to transmit data or receive data as required by claims 7, 19, or 28 before going back to scanning for more channels. All the channels are scanned that are available however (column 13, lines 7- 15, where all the available channels are scanned and Figure 5A, Item 182). The general concept of continuing a transmission while performing a channel scan is well known in the art as illustrated by Gwon et al.

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Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39- 45, where the mobile device can still transmit and receive data to the old agent using tunnels, seen as using the old channel to transmit or receive data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

14. Regarding claim 8, Spaur et al. anticipates:

A method for interoperability of a network interface protocol with an Internet Protocol to ensure a high data throughput, the method comprises:

when a Transmission Control Protocol (TCP) connection is established between a source and a destination, receiving a network interface protocol channel scan request (column 6, lines 25-29, where a selected channel is active by transmitting and receiving information packets, and column 13, line 67-column 14, line 3, where the link selector determines the switching from a currently used channel, seen as active or receiving packets, to a new channel, which requires the use of the channel scan request as seen in Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as a channel scan request, and the protocol used is TCP as seen in column 5, lines 61-67).

15. Spaur et al. also anticipates that the scanning of channels happens intermittent with the buffering of delayed information (column 13, lines 8-22, with the link scheduler scanning for future channels and delaying information by buffering the transmission).

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16. Spaur et al. does not disclose hopping back to the first channel to transmit data before going back to scanning for more channels as to reduce latency in packet transmissions of the original network channel during channel scanning. The general concept of continuing a transmission while performing a channel scan is well known in the art as illustrated by Gwon et al.

17. Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39- 45, where the mobile device can still transmit to the old agent using tunnels, seen as using the old channel to transmit data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

18. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

19. Regarding claim 9, Spaur et al. and Gwon et al. teach all of the limitations as described above and Spaur et al. further teaches:

The method of claim 8 further comprises periodically receiving the network interface protocol channel scan request from a host device to determine whether another one of the plurality of channels contains data of interest to the host device (column 10, lines 34-38 and column 7, line 41-column 8, line 9, where the link selector transfers old channels to new channels upon changing communication conditions, seen as periodically, and the channels are analyzed to determine if they match certain parameters seen as data of interest).

20. Regarding claims 11-12, 21-22, and 30-31, Spaur et al. and Gwon et al. teach all of the limitations as described above with Spaur et al. further teaching

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Iteratively hopping between the scanning of one of the other channels and the channel supporting the TCP connection until each of the other channels has been scanned (column 13, lines 7-15, with the system scanning channels as they become available).

21. Spaur et al. does not disclose sending or receiving as required by claim 12, 22, or 31 at least one new datagram while tuned to the channel supporting the TCP connection. The general concept of continuing a transmission or reception while performing a channel scan is well known in the art as illustrated by Gwon et al.

22. Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39-45, where the mobile device can still transmit and receive data to the old agent using tunnels, seen as using the old channel to transmit or receive data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

23. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

24. Regarding claim 14, Spaur et al. anticipates: A communication device comprises: Wireless network interface module to provide connectivity to a wireless local area network (WLAN) in accordance with at least one wireless network interface protocol, wherein the WLAN is coupled to an Internet, and wherein the connectivity is provided via one of a plurality of channels of the WLAN (column 6, lines 30-32, and lines 9-15, with a wireless device communicating on a variety of network interfaces, seen as channels, and they can communicate using an Internet protocol, seen as using an interface protocol and being coupled to an Internet); Processing module operably coupled to transceive datagrams to and from the Internet via the wireless network interface module (column 6, lines 25-29, with the receiver communicating with the wireless network interface); and Memory operably coupled to the

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processing module, wherein the memory stores operational instructions that cause the processing module to (column 5, lines 35- 43, with the software of the device described):

Process data in accordance with a utility application to produce a message (column 5, lines 61-62, where the applications communicate their output);

Process the message in accordance with a transport application to produce a packet (column 5, lines 62-67, where the application's output is communicated to the transport layer for transfer over a network channel, seen as producing a packet since packets are used to transmit over network channels as seen in column 6, lines 16-19);

Process the packet in accordance with an Internet Protocol to produce at least one of the datagram (column 6, lines 3-15, where the internet protocol is used);

Generate a channel scan request in accordance with the transport application (column 8, lines 4-9, where each network channel is analyzed and column 6, lines 30-32, with the channels being able transfer information relative to the terminal stack, seen as channels that are compliant with the network interface protocol, or transport application);

Determine whether one of the datagrams is being received when the channel scan request is generated (column 6, lines 25-29, where a selected channel is active by transmitting and receiving information packets, and column 13, line 67-column 14, line 3, where the link selector determines the switching from a currently used channel, seen as active or receiving packets, to a new channel, which requires the use of the channel scan request as seen in Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as a channel scan request);

When the one of the datagrams is being received when the channel scan request is received, scan at least one other channel of the plurality of channels, but less than all of the plurality of channels (Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as scanning other channels, but not the currently used channel, and column 13, line 67-column 14, lines 3 where the link selector takes a currently used network channel and switches to a different channel, seen as doing a channel scan only when the one channel is active or receiving packets).

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25. Spaur et al. also anticipates that the scanning of channels happens intermittent with the buffering of delayed information (column 13, lines 8-22, with the link scheduler scanning for future channels and delaying information by buffering the transmission).

26. Spaur et al. does not disclose tuning back to the first channel to transmit data before going back to scanning for more channels. The general concept of continuing a transmission while performing a channel scan is well known in the art as illustrated by Gwon et al.

27. Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39- 45, where the mobile device can still transmit to the old agent using tunnels, seen as using the old channel to transmit data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

28. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

29. Regarding claim 15, Spaur et al. and Gwon et al. teach all of the limitations as described above, with Spaur et al. further teaching:

The communication device of claim 14, wherein the memory further comprises operational instructions corresponding to an operating system of a computer, wherein the transport application is included in the operating system (column 5, lines 28-43, where the system is used in conjunction with a mobile unit, seen as having an operating system that includes the functions of the transport layer of the terminal stack).

30. Regarding claim 16, Spaur et al. and Gwon et al. teach all of the limitations as described above, with Spaur et al. further teaching:

The communication device of claim 14, wherein the memory further comprises operational instructions that cause the processing module to determine whether the datagram is

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being received further comprises: determining that a source of the datagram and the communication device have established a Transmission Control Protocol (TCP) connection. (column 6, lines 25-29, where a selected channel is active by transmitting and receiving information packets, and the protocol used is TCP as seen in column 5, lines 61- 67).

31. Regarding claim 20, Spaur et al. anticipates: A communication device comprises:

Wireless network interface module to provide connectivity to a wireless local area network (WLAN) in accordance with at least one wireless network interface protocol, wherein the WLAN is coupled to an Internet, and wherein the connectivity is provided via one of a plurality of channels of the WLAN (column 6, lines 30-32, and lines 9-15, with a wireless device communicating on a variety of network interfaces, seen as channels, and they can communicate using an Internet protocol, seen as using a interface protocol and being coupled to an Internet); Processing module operably coupled to transceive datagrams to and from the Internet via the wireless network interface module (column 6, lines 25-29, with the receiver communicating with the wireless network interface); and

Memory operably coupled to the processing module, wherein the memory stores operational instructions that cause the processing module to (column 5, lines 35- 43, with the software of the device described):

Process data in accordance with a utility application to produce a message (column 5, lines 61-62, where the applications communicate their output);

Process the message in accordance with a transport application to produce a packet (column 5, lines 62-67, where the application's output is communicated to the transport layer for transfer over a network channel, seen as producing a packet since packets are used to transmit over network channels as seen in column 6, lines 16-19);

Process the packet in accordance with an Internet Protocol to produce at least one of the datagram (column 6, lines 3-15, where the internet protocol is used);

When a TCP connection is established between a source and the communication device, generate a network interface protocol channel scan request (column 6, lines 25-29, where a

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selected channel is active by transmitting and receiving information packets, and column 13, line 67- column 14, line 3, where the link selector determines the switching from a currently used channel, seen as active or receiving packets, to a new channel, which requires the use of the channel scan request as seen in Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as a channel scan request, and the protocol used is TCP as seen in column 5, lines 61-67);

Spaur et al. also anticipates that the scanning of channels happens intermittent with the buffering of delayed information (column 13, lines 8-22, with the link scheduler scanning for future channels and delaying information by buffering the transmission).

Spaur et al. does not disclose hopping back to the first channel to transmit data before going back to scanning for more channels. The general concept of continuing a transmission while performing a channel scan is well known in the art as illustrated by Gwon et al.

Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39- 45, where the mobile device can still transmit to the old agent using tunnels, seen as using the old channel to transmit data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

32. Regarding claim 24, Spaur et al. anticipates:

A wireless network interface module comprises:

Processing module; and

Memory operably coupled to the processing module, wherein the memory stores operational instructions that cause the processing module to (column 6, lines 25- 29, with

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the receiver communicating with the wireless network interface and column 5, lines 35-43, with the software of the device described):

Receiving a scan channel request in accordance with the transport application (column 8, lines 4-9, where each network channel is analyzed and column 6, lines 30-32, with the channels being able transfer information relative to the terminal stack, seen as channels that are compliant with the transport application);

Determining whether one of the datagrams is being received when the channel scan request is generated (column 6, lines 25-29, where a selected channel is active by transmitting and receiving information packets, and column 13, line 67-column 14, line 3, where the link selector determines the switching from a currently used channel, seen as active or receiving packets, to a new channel, which requires the use of the channel scan request as seen in Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as a channel scan request);

When the one of the datagrams is being received when the channel scan request is received, scanning at least one other channel of the plurality of channels, but less than all of the plurality of channels (Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as scanning other channels, but not the currently used channel, and column 13, line 67-column 14, lines 3 where the link selector takes a currently used network channel and switches to a different channel, seen as doing a channel scan only when the one channel is active or receiving packets).

Spaur et al. also anticipates that the scanning of channels happens intermittent with the buffering of delayed information (column 13, lines 8-22, with the link scheduler scanning for future channels and delaying information by buffering the transmission).

Spaur et al. does not disclose tuning back to the first channel to transmit data before going back to scanning for more channels. The general concept of continuing a transmission while performing a channel scan is well known in the art as illustrated by Gwon et al.

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Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39- 45, where the mobile device can still transmit to the old agent using tunnels, seen as using the old channel to transmit data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

33. Regarding claim 25, Spaur et al. and Gwon et al. teach all of the limitations as described above, with Spaur et al. further teaching:

The wireless network interface module of claim 24, wherein the memory further comprises operational instructions that cause the processing module to determine whether the datagram is being received further comprises: determining that a source of the datagram and the communication device have established a Transmission Control Protocol (TCP) connection (column 6, lines 25-29, where a selected channel is active by transmitting and receiving information packets, and the protocol used is TCP as seen in column 5, lines 61- 67).

34. Regarding claim 29, Spaur et al. anticipates:

A wireless network interface module comprises:

Processing module; and

Memory operably coupled to the processing module, wherein the memory stores operational instructions that cause the processing module to (column 6, lines 25- 29, with the receiver communicating with the wireless network interface and column 5, lines 35-43, with the software of the device described):

When a Transmission Control Protocol (TCP) connection is established between a source and a destination, receiving a network interface protocol channel scan request (column 6, lines 25-29,

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where a selected channel is active by transmitting and receiving information packets, and column 13, line 67-column 14, line 3, where the link selector determines the switching from a currently used channel, seen as active or receiving packets, to a new channel, which requires the use of the channel scan request as seen in Figure 5A. Items 170-182, with determining the identity of other channels that might be used is seen as a channel scan request, and the protocol used is TCP as seen in column 5, lines 61-67).

Spaur et al. also anticipates that the scanning of channels happens intermittent with the buffering of delayed information (column 13, lines 8-22, with the link scheduler scanning for future channels and delaying information by buffering the transmission).

Spaur et al. does not disclose hopping back to the first channel to transmit data before going back to scanning for more channels as to reduce latency in packet transmissions of the original network channel during channel scanning. The general concept of continuing a transmission while performing a channel scan is well known in the art as illustrated by Gwon et al.

Gwon et al. teaches that continued data transmissions could take place during a hand off of network channels and during a candidate node search (column 9, lines 39- 45, where the mobile device can still transmit to the old agent using tunnels, seen as using the old channel to transmit data, and also that candidate nodes can be determined before the source node goes down as seen in column 4, lines 13-20, where tunnels connected the mobile node and the candidate nodes are in place before a target node is even chosen, thus the source and mobile node are still communicating as before).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. with transmitting data while performing a search for candidate nodes as taught by Gwon et al. in order to minimize transfer latency associated with network channel handoff as noted in Gwon et al.'s disclosure in column 3, line 66-column 4, line 1.

35. Claims 4, 6, 10, 13, 18, 23, 27, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaur et al. (US 6,122,514) in view of Gwon et al. (US 6,832,087) as applied to claims 1, 8, 14, 20, 24, and 29 above, and further in view of Saint-Hilaire et al. (US 7,136,364).

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36. Regarding claims 4 and 10, Spaur et al. and Gwon et al. teach all of the limitations as described above except for having the internet packet formatted with accordance with an Internet Protocol, such that a TCP/IP protocol packet is formed in accordance. The general concept of formatting a packet in a channel selection system to be in accordance with IP is well known in the art as illustrated by Saint-Hilaire et al. Saint-Hilaire et al. teaches a channel selection system where each packet is formatted as an IP packet (column 3, lines 36-40) and it also uses the TCP protocol (column 1, lines 58-62). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. and Gwon et al. with using the IP and TCP/IP format as taught by Saint-Hilaire et al. in a channel selection system in order to maintain a constant IP presence in a channel selection system as noted in Saint-Hilaire et al.'s disclosure in column 1, lines 38-42.

37. Regarding claims 6, 13, 18, 23, 27, and 32, Spaur et al. and Gwon et al. teach all of the limitations as described above except for having the network interface protocol be IEEE 802.11. The general concept of using IEEE 802.11 in a channel selection system is well known in the art as illustrated by Saint-Hilaire et al. Saint-Hilaire et al. teaches a channel selection system where the network can be an 802.11 network (column 2, lines 60-64). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Spaur et al. and Gwon et al. with using 802.11 protocol as the network protocol in a channel selection system as taught by Saint-Hilaire et al. in order to use well known wireless LAN technologies as a channel interface to maintain an IP presence as noted in Saint-Hilaire et al.'s disclosure in column 1, lines 38-42 and column 2, lines 60-64.

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Huang et al.	US 5,448,569
Koenck et al.	US 6,014,705
Trompower et al.	US 6,088,591
Takahashi et al.	US 6,275,518 B1
Lee et al.	US 6,657,981 B1
Moon	US 6,704,571 B1

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Uhlik	US 6,760,599 B1
Shannon et al.	US 6,961,774 B1
Garcia-Luna-Aceves et al.	US 7,002,910 B2
Sugar et al.	US 7,050,452 B2

39. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

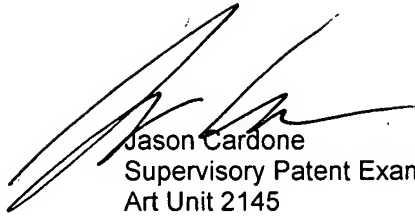
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Jason Cardone
Supervisory Patent Examiner
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JRS